

REMARKS

In response to the Office Action dated January 3, 2008, Applicant has not amended the claims. Claims 1-31 remain pending of which claims 13-24, 27 and 30 are withdrawn.

Preliminary Comments

In the previous remarks dated March 28, 2008, Applicant provided arguments in support of the Examiner's conclusion that "Watson fails to teach or *suggest a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback.*" In particular, Applicant argued that "in Watson, if the actual bit rate is below the desired bit rate, the quantization matrix optimizer (36) will continue to adjust the target perceptual error parameter until the actual bit rate is no longer below the desired bit rate. This is in direct contrast to the 'parameter generator' recited in amended claim 1, which actually outputs a final set of parameters when the compressed data bit rate is determined to be below a selected threshold." In response to these arguments, the Examiner stated the following:

The examiner respectively (sic) disagrees. For example, Watson teaches these claimed features, for example, see item 90 of figure 4 (Note that when bit rate is below desired bit rate (YES), compressor 12 transmits compressed data to receiver 14 so that receiver will decode compressed data . . .).¹

Applicant submits that such an interpretation of the Watson reference is improper. Contrary to the Examiner's assertion, the process shown in FIG. 4 of Watson does not traverse the "YES" branch of decision box 90 when the bit rate is below a desired bit rate. Instead, when the bit rate is below a desired bit rate, the process in FIG. 4 of Watson proceeds along the "NO" branch of decision box 90 and continues to adjust the target perceptual error until the bit rate is equal to a desired threshold. In other words, according to the process in FIG. 4 of Watson, no encoding occurs when the actual bit rate is below the desired bit rate. As such, the process in FIG. 4 of Watson cannot be fairly construed to anticipate the requirements of Applicant's claims, which include compressing the digital image information using a final set of parameters that is determined to result in a compressed data bit rate below a selected threshold. Accordingly,

¹ Office Action dated June 16, 2008, paragraph 3.

Applicant's original assertion and arguments still stand and withdrawal of the rejection is respectfully requested.

Under any reasonable interpretation, Watson fails to anticipate the novel approach to encoding digital image information defined in independent claims 1, 25 and 28. The encoding apparatuses recited in these claims are designed to generate a set of parameters that will limit the bit rate of the data compressed by an image compressor, and therefore reduce the probability that a decoder may stall or stop during playback due to a high data rate.² The digital compression process in FIG. 4 of Watson, however, is designed to fulfill a completely different purpose, namely, to minimize a perceptual error parameter. The process of Watson, which serves a completely different purpose than the process of Applicant's claims, fails to anticipate the features recited in Applicant's claims for at least the reasons explained above.

During a telephonic interview conducted on August 14, 2008, the Examiner reacted favorably to the above-mentioned arguments, and indicated that if such arguments were made in a formal response, then they would be sufficient to overcome the rejection of claims 1, 25 and 28 under 35 U.S.C. 102(b) in view of Watson. Accordingly, withdrawal of the rejection is respectfully requested.

Claim Rejection Under 35 U.S.C. § 102

In the Final Office Action, the Examiner rejected claims 1-8, 10, 25, 26, 28, 29 and 31 under 35 U.S.C. 102(b) as being anticipated by Watson (5,629,780). Applicant respectfully traverses the rejection. Watson fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. 102(b), and provides no teaching that would have suggested the desirability of modification to include such features.

For example, Watson fails to teach or suggest *a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback*, as recited by Applicant's claim 1.

In the Office Action, the Examiner characterized the quantization matrix optimizer (36) and the quantize block (38) shown in Figure 2 of Watson as allegedly teaching the "parameter

² Specification, paragraph [00065].

generator” recited in Applicant’s claim 1. Applicant submits that neither of the processing blocks cited by the Examiner outputs a final set of parameters having the characteristics specified in Applicant’s claim 1. As shown in Figure 2 of Watson, the quantization matrix optimizer (36) creates an optimized quantization matrix for use by quantize block (38). The optimized quantization matrix, however, is not optimized to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback. Watson makes no mention of the generation of parameters in relation to a threshold so that a decoder will not stop during playback. Instead, Watson specifically mentions that “if a bit rate results which is lower than desired, the value of the target perceptual error parameter Ψ of segment 92 is decremented.”³ Hence, Watson does not contemplate generation of parameters determined to result in a compressed data bit rate below a selected threshold. Moreover, the decrementing of the parameter in Watson is “repeated until the actual bit rate is equal to the desired bit rate.”⁴ Only after the actual bit rate is equal to the desired bit rate does the quantization matrix optimizer (36) create an optimized quantization matrix.

Thus, in Watson, if the actual bit rate is below the desired bit rate, the quantization matrix optimizer (36) will continue to adjust the target perceptual error parameter until the actual bit rate is no longer below the desired bit rate. This is in direct contrast to the “parameter generator” recited in independent claim 1, which actually outputs a final set of parameters when the compressed data bit rate is determined to be below a selected threshold. Moreover, Watson provides no teaching that would have suggested any apparent reason to provide such a feature. Unlike the “parameter generator” recited in claim 1, the quantization matrix optimizer (36) in Watson does not output any parameters when the actual bit rate is below the desired bit rate, but rather internally adjusts the parameters until the actual bit rate equals the desired bit rate. Therefore, the quantization matrix optimizer (36) in Watson fails to disclose or suggest the “parameter generator” defined in Applicant’s claim 1.

The quantize block (38) relied upon by the Examiner quantizes DCT coefficients based upon an optimized quantization matrix. As already discussed above, however, the optimized quantization matrix is not optimized to result in a compressed data bit rate below a selected threshold, and particularly not a selected threshold so that a decoder will not stop during

³ Id. at col. 11, lines 4-6.

playback. Consequently, the quantized DCT coefficients generated by the quantize block (38) are also not optimized to result in a compressed data bit rate below a selected threshold. Thus, the quantize block (38) in Watson also fails to disclose or suggest the “parameter generator” defined in Applicant’s claim 1.

In summary, the cited portions of Watson fail to disclose or suggest “a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback,” as required by independent claim 1. Moreover, because Watson fails to disclose or suggest the parameter generator defined in claim 1, Watson also fails to disclose or suggest “an image compressor coupled to the parameter generator, the image compressor to compress the digital image information using the final set of parameters, wherein the encoder outputs the compressed digital information,” as required by independent claim 1.

Accordingly, Watson fails to disclose or suggest each and every feature of Applicant’s claim 1. Independent claims 25 and 28 include limitations similar to those contained in independent claim 1. Thus, substantially the same arguments discussed above with respect to claim 1 are applicable to independent claims 25 and 28. Moreover, claims 2-8, 10 and 31 are dependent upon claim 1, claim 26 is dependent upon claim 25, and claim 29 is dependent upon claim 28. Accordingly, Applicant submits that claims 2-8, 10, 26, 29, and 31 are allowable over Watson for at least the reasons described above with respect to independent claims 1, 25 and 28.

In addition, Applicant also submits that the applied references also fail to disclose other elements recited in Applicant’s dependent claim 10. For example, claim 10 requires that “the final set of parameters further includes Huffman code tables and the variable length coding module includes a Huffman engine to compress the quantized transform coefficients using the Huffman code tables.” In support of the rejection of claim 10, the Examiner cited to col. 5, lines 25-29 of Watson, which makes a general reference to Huffman coding. Despite the reference to Huffman coding, Watson makes no mention of a final set of parameters that is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback wherein the final set of parameters includes Huffman code tables. Consequently, Watson fails to disclose or suggest the requirements of dependent claim 10.

⁴ Id. at col. 11, lines 26-29.

For at least the reasons set forth above, the Examiner has failed to establish a prima facie case for anticipation of Applicant's claims 1-8, 10, 25, 26, 28, 29 and 31 under 35 U.S.C. 102(b). Withdrawal of this rejection is requested.

Claim Rejection Under 35 U.S.C. § 103

In the Final Office Action, the Examiner rejected claim 12 under 35 U.S.C. 103(a) as being unpatentable over Watson (5,629,780). The Examiner also rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over Watson (5,629,780) as applied to claims 1 and 8 above, in view of Pian et al. (US 2002/0021754); and rejected claim 11 under 35 U.S.C. 103(a) as being unpatentable over Watson (5,629,780) as applied to claims 1 and 8 above, in view of Lee et al. (US 5,576,767). Applicant respectfully traverses these rejections. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested a reason to arrive at the claimed invention.

For example, as already discussed above with respect to independent claim 1, Watson fails to disclose or suggest *a parameter generator to output a final set of parameters, wherein the final set of parameters is determined to result in a compressed data bit rate below a selected threshold so that a decoder will not stop during playback*, as recited in claim 1. Thus, Watson also fails to disclose or suggest the features of dependent claims 9, 11 and 12. Moreover, the other applied references, including Pian and Lee, fail to overcome the deficiencies already described above with respect to Watson. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 9, 11 and 12 under 35 U.S.C. § 103(a).

September 16, 2008

CONCLUSION

In the foregoing remarks, Applicant has focused on certain requirements of the claims for purposes of conciseness. In so doing, Applicant in no way admits or acquiesces in the propriety of the Office Action in regard to interpretation of the prior art or any of the additional limitations set forth in the various claims, including the limitations of the dependent claims. Rather, Applicant reserves the right to traverse these rejections or offer further comment concerning these rejections in the future.

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 17-0026. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

Sept. 16, 2008
QUALCOMM, Inc.
5775 Morehouse Drive
San Diego, CA 92121
Telephone: (858) 651-7298
Facsimile: (858) 658-2502

By:

Steven R. Thiel
Name: Steven R. Thiel
Reg. No.: 53,685